DATA TERMINAL AND SYSTEM FOR PLACING ORDERS

This application is a continuation-in-part of U.S. patent application Ser. No. 558,303, filed Dec. 5, 1983 and now abandoned.

FIELD OF THE INVENTION

This invention relates to a method and system for enabling a large number of consumers to place orders for goods or services with a data terminal. More specifically, this invention relates to a data terminal and data processing means with which goods or services can be ordered.

BACKGROUND OF THE INVENTION

Data terminals for communication with computers are well known. For example, U.S. Pat. No. 4,115,870 to Lowell teaches a small light weight hand-held battery powered data terminal with which a salesman enters orders for products including information such as the product code, quantity, nature of payment and the like. A customer identification number is entered and order information that has been entered may be recalled. Data entered is transmitted to a central terminal by way of a telephone connection. A display is employed to visually indicate the information being ordered.

Other data terminals of various types are shown and described in U.S. Pat. Nos. 4,277,837 to Stuckert; 3,976,840 to Cleveland, 4,090,247 to Martin, 4,032,931 to Haker and 3,792,444 to Spinner.

SUMMARY-OF-THE INVENTION

With a data terminal and system in accordance with the invention, a versatile technique is provided by which consumers, whose locations may be anywhere in the country where there is a telephone service, may order goods or services of a wide variety and from a broad range of suppliers. The suppliers may be local merchants or nationally represented. The system contemplates a network of local processing centers with which subscribers communicate to place orders. The users of the system are provided with convenient hand-holdable battery powered terminals with a limited number of order and function keys. This terminal is used by the consumer to initially select and store data representative of the orders. When later connected to a phone line the terminal can be commanded to automatically dial and transmit the stored data in a short burst over a telephone link to a local processing center for processing including customer verification, data format and credit verification, order placement and supplier contact. Each terminal is assigned an internal identification number and a specific local processing center which the terminal can automatically access.

The system further contemplates that the orders may be routed by the local processing center to local merchants or to a regional processing center for accumulation of orders, sorting and forwarding to a common nationally represented supplier. A number of local processing centers may be connected to a regional processing center and a number of regional processing centers may be interconnected with a national processing center.

The consumer data terminal used in the invention employs a keyboard, display, memory registers and processor control as are generally well known but are specifically adapted to provide unique language prompts, data storage and data communication in a convenient manner. In response to visually displayed prompts, the user selects, for example, the nature of the goods or services desired. The user chooses the supplier and the particular item, using a product code that is selected either from the supplier's catalog or from special instructions made available for that purpose. The particular data related to the selected item, together with an individual personal authorization code are entered in the terminal keyboard. The consumer may then review each stored segment of data to confirm or make changes or completely abort the data entry. All of the data related to the user's order, if it is to be executed, is stored in a send memory by a key command. Additional entries of orders can be made and placed in the send memory until it is filled.

When the consumer is ready, the orders placed in the terminal are transmitted after automatic dialing by the terminal through an internal data modem to a local processing center over a telephone communication link. The link normally involves a local call that can be promptly answered. If the call is for some reason not completed, the terminal automatically hangs up, waits for a predetermined period and dials again. The user does not have to be present during these automatic actions. Because the data to be sent is limited in length, the time needed to transfer data from a data terminal and obtain return verification from the local processing center is extremely short, of the order of a few seconds. As a result, a local processing center can service a large number of consumer data terminals with each phone line accommodating as many as one thousand of transactions per hour, without presenting an undue delay to any one terminal seeking access. One particularly advantageous feature of the invention contemplates a bar code reader, such as a light reading pen as one of several peripheral attachments through the terminal I/O connector with which data identifying any one particular product can be automatically read and entered into the send memory. Other peripheral equipment including a hard copy printer, security or utility sensor and monitoring systems, and wireless telephone transmission instruments may be connected through the I/O connector to the data terminal.

Another aspect of the invention includes use of a routine by which the user of the data terminal receives an immediate visual confirmation or error response from the local processing center. The latter is programmed to respond with a visual word display at the terminal after a check of the terminal and user identification numbers and proper order data formats and credit authorization. No voice exchange or written transfers are needed.

With a data terminal in accordance with the invention, product codes and stock numbers as presently employed in a wide variety of existing catalogs can be used in the ordering of merchandise. For example, as described herein for one embodiment, merchandise can be ordered with a data terminal from a supplier catalog using a particular code for that supplier catalog, page number, product identification numbers together with quantity and product option codes in the order and manner as these appear on the catalog page. Since the file at the local processing center includes in its computer memory the name, address and other related transaction data for this individual consumer, only lim-